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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/006,922	12/04/2001	Sergey A. Lukyanov	CLON-035CIP	9351

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EXAMINER

SNEDDEN, SHERIDAN

ART UNIT PAPER NUMBER

1653

DATE MAILED: 07/28/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

3M

Office Action Summary

Application No.

10/006,922

Applicant(s)

LUKYANOV ET AL.

Examiner

Sheridan K Snedden

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 21 June 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-31 is/are pending in the application.
- 4a) Of the above claim(s) 26,28 and 30 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-23,27 and 31 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

Notice of References Cited (PTO-892)

Notice of Draftsperson's Patent Drawing Review (PTO-948)

Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)

No(s)/Mail Date 2/02, 9/02, 3/04.

4) ☐ Interview Summary (PTO-413)

Paper No(s)/Mail Date. _____.

5) ☐ Notice of Informal Patent Application (PTO-152)

6) ☐ Other: _____.

DETAILED ACTION

1. Claims 1-30 have been misnumbered with an error occurring at claim 26, which appears in duplicate. Claims have been renumbered 1-31.

2. Applicant's cancellation of claims 24-25 and 28(renumbered to 29) is acknowledged. To clarify to Grouping of the claims as to the new numbering system and to include the amendment acknowledged above, a revised grouping is given below which corrects errors in the numbering present in the restriction requirement mailed 5/26/2004

- I. Claims 1-23, 27, 31, drawn to a nucleic acid that encodes a chromo or fluorescent protein or fragment thereof, vectors, and host cell, classified in class 530, subclass 350+.
- II. Claim 18, drawn to a mimetic of a nucleic acid that encodes a chromo or fluorescent protein or fragment thereof, classified in class 514, subclass 1.
- IV. Claim 26, drawn to an antibody, classified in class 530, subclass 387.1.
- V. Claims 28, drawn to a transgenic organism, classified in class 800, subclass 8.
- VII. Claim 30, drawn to a method using nucleic acid, classified in class 435, subclass 6.

3. Applicant's election of invention I, claims 1-23, 27 and 31 is acknowledged.

Applicant's election of SEQ ID NO: 11 and 12 is acknowledged. Claims 26, 28 and 30 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected invention, there being no allowable generic or linking claim. Because applicant did not distinctly and specifically point out the supposed errors in the restriction

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requirement, the election has been treated as an election without traverse (MPEP

§ 818.03(a)). Claims 1-23, 27 and 31 are under examination.

4.

Claim Objections

5. Claims 6, 7, 11, 16-21 are objected to because of the following informalities:

Claims 6, 7, 11, 16-21 recite nonelected subject matter withdrawn from consideration.

Appropriate correction is required.

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

7. Claims 1-23, 27 and 31 are rejected under 35 U.S.C. 102(e) as anticipated by Lukyanoy *et al.* (WO 200034326, IDS). Lukyanoy *et al.* teach an isolated cDNA or its variants from a non- bioluminescent *Discosoma* sp. and the red fluorescent protein drFP583 encoded by it. The isolated DNA sequence is identical to SEQ ID NO: 11 and encodes a protein identical to SEQ ID NO: 12 (see claims and SEQ ID NO: 55-56; regarding claims 1-11, 18-19).

Lukyanoy *et al.* also teach a vector capable of expressing drFP583 in a recombinant cell and a host cell transfected with the vector that is capable of expressing drFP583 (regarding claims 20-23, 27).

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Mutants are taught in Example 16 (regarding claims 12-15).

Lukyanoy *et al.* teach the use of the cDNA to make probes and thus, fragments are taught (regarding claims 16-19).

The specification teaches the product of the claims and provides instructions for use (regarding claim 31).

Thus, the reference clearly anticipates the invention as recited in the claims.

8. Claims 1-23, 27 and 31 are rejected under 35 U.S.C. 102(e) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Tsien *et al.* (US 6,342,379). Tsien *et al.* teach a nucleic acid sequence that is 100% identical to SEQ ID NO: 11 and encodes the protein of SEQ ID NO: 12 (see SEQ ID NO: 6; regarding 1-11, 18-19).

Tsien *et al.* teach non Aequorea fluorescent proteins, for example Anthozoan fluorescent proteins, and functional engineered mutants thereof (see columns 29-30 and Table 2; regarding claims 12-15). In the alternative, Tsien *et al.* suggest the function mutants of SEQ ID NO: 6, rendering claims 12-15 obvious.

Tsien *et al.* teaches SEQ ID NO: 5, which is 60.4% identical to SEQ ID NO: 11 of the present invention and also comprises a nucleotide sequence of at least 10 residues in length of SEQ ID NO: 11 (see for example SEQ ID NO: 5 at position 65-76; regarding claims 16-17).

Tsien *et al.* also teaches the use of vector and host cells for the recombinant production of protein encoded by SEQ ID NO: 6 (see column 34). In the alternative, Tsien *et al.* suggest the use of vectors and host cells for the production of protein encoded by of SEQ ID NO: 6, rendering claims 12-15 obvious.

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The specification teaches the product of the claims and provides instructions for use (regarding claim 31).

Thus, the reference clearly anticipates the invention as recited in the claims.

Conclusion

9. No claims are allowed.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sheridan K Snedden whose telephone number is (571) 272-0959. The examiner can normally be reached on Monday - Friday, 8:30 AM to 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jon Weber can be reached on (571) 272-0925. The fax phone number for regular communications to the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0196.

SKS
July 19, 2004

SKS

A handwritten signature in cursive script that reads "Karen Cochrane Carlson PhD".

KAREN COCHRANE CARLSON, PH.D
PRIMARY EXAMINER